ADEQ Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

MEETING MINUTES

OU# 08-022

Phoenix-Goodyear Airport Area/Western Avenue Plume
Community Advisory Group Meeting

Thursday, August 2, 2007 at 6:30 p.m.
Goodyear City Hall, Room 117
190 N. Litchfield Road
Goodyear, Arizona

DRAFT MINUTES

CAG members present: Diane Krone; Sheri Michele Lauritano; and Susan Kagan

Members absent**:** Thomas Jones; Bob Smith; and Brenda Holland

ADEQ Staff in attendance: Tom Di Domizio, Western Ave WQARF Project Manager, Cathy O'Connell, PGA-North Project Manager; Brian Stonebrink, PGA-South Project Manager; Linda Mariner, Community Involvement Coordinator; and Felicia Calderon, Community Involvement Coordinator

EPA Staff in attendance: Mary Aycock, Remedial Project Manager; and Jose Garcia, Community Involvement Coordinator

Members of the public present:

Robert A. Mongrain, ARCADIS	David Iwanski, City of Goodyear
Kevin Murdock, CH2M Hill	Phillip Fargotstein
Ron Clark, Goodyear Tire & Rubber	Sara Bisker, West Valley View
Tom Suriano, Clear Creek Associates	Steve Smith, Smith Consulting
Frank Scott, City of Avondale	Ken Weise, City of Avondale
Nancy L. Brandt	Julia Duff
Frank Scuff	David Foltz
Colin Barleycorn	Barney Bigman
Mónica Ramírez, U of A	Denise Moreno, U of A

The following matters were presented at the meeting.

1. Call to Order / Introductions
Ms. Krone, CAG Co-chair, welcomed everyone and facilitated the meeting. CAG members and all meeting attendees introduced themselves. No business was conducted due to the lack of a quorum of CAG members.

2. Update of PGA-North Activities – Robert Mongrain, ARCADIS
Mr. Mongrain, a technical consultant working with Crane Co., gave an update on the operation of the two treatment systems on site and the ongoing groundwater investigation. The main treatment system consists of four extraction wells that have been operating since 1994. These

wells pump up to 380 gallons per minute. The Well 33A treatment system has one extraction well that has operated since 1998 and pumps up to 750 gallons per minute. Mr. Mongrain provided data on the performance of both treatment systems for the 2nd quarter of 2007. The main treatment system removed 123 pounds of TCE and 3.2 pounds of perchlorate. The Well 33A treatment system removed 54 pounds of TCE during that time.

Mr. Mongrain also gave an update on the soil vapor extraction (SVE) system on the Unidynamics facility (UPI) Site. It was installed in 1996 and restarted in 2004. For the 2nd quarter 159 pounds of total VOCs were removed along with 54 pounds of TCE. The 2nd quarter 2007 sampling was completed in May, and the 3rd quarter sampling will begin in August.

Mr. Mongrain explained that progress in the groundwater investigation includes the installation this year of 14 new monitor wells. The proposed work for the second year beginning July 2007 of the approved work plan includes 11 additional monitor wells. To address the issue of plume expansion, two extraction wells were proposed by Crane Co. in late 2006. The work plan has been approved by EPA. Drilling will begin in the next couple of weeks. After these wells are in operation, the data will be collected and evaluated to determine if additional monitor wells need to be installed. ARCADIS has an ongoing program to assess conduit wells to determine if they need to be abandoned to protect the deeper groundwater. Mr. Mongrain stated that the City of Goodyear wells COG-02 and COG-10 have already been sealed. There is also a planned abandonment of the COG-04 Well.

Mr. Mongrain stated that there is an on-site investigation at the UPI facility of the source areas, soils, and facility structures. The goal is to determine if any other contamination is present. The work includes taking soil borings, soil samples, expanded on-site well sampling and excavation of below grade structures. The EPA approved work plan started in May 2007 and is ongoing.

Mr. Mongrain announced that Crane Co. is evaluating in-situ treatment of TCE in source zones that is an innovative technology that chemically reduces the TCE to non-harmful compounds. This treatment uses nano-scale Zero Valent Iron (ZVI) and was selected for study by Crane Co. due to its rapid treatment process.

Ms. Kagan asked for a reminder about what happens to the carbon once it is fully loaded with contaminants. Mr. Mongrain explained that the carbon is picked up by vendors who take it to facilities that clean the TCE from the filters which is disposed appropriately. Ms. Kagan then asked about what is done with the non-harmful waste product from the ZVI treatment. Mr. Mongrain explained that the TCE is totally degraded into non-harmful chloride.

Mr. Garcia asked about how the ZVI system works in getting into the groundwater to remove the TCE. Mr. Mongrain clarified that the nano-size particles of ZVI are injected into the subsurface soil around the well. Ms. Aycock explained that the study involves two wells at this time comparing the results of the upgradient well with the down-gradient well to see what affect the ZVI has on TCE concentrations. Ms. O'Connell added that the pilot field testing will determine how much ZVI it will take to achieve desired results. The testing will be done this fall, and Ms. Aycock invited anyone interested to attend that test.

Ms. Lauritano asked if an explanation could be given for the new people attending the CAG meeting about what progress is being made in the remediation process and timeline. Mr. Mongrain explained that the site is currently in the remedial investigation stage that is required to fully characterize the extent of the plume both laterally and vertically before any decisions are made on the cleanup remedy. At the same time, the treatment systems are providing

containment of the plume as well as removal of the contaminants. Ms. Aycock stated that the total amount of contaminants removed by each treatment system is available to measure the progress of the cleanup since the start up of the systems. Mr. Mongrain referred back to his previous slide which showed the total amount of contaminants removed, and then he said that it was really hard to estimate how long the cleanup process would be because data indicated that there was still a significant amount of TCE still in the groundwater. Ms. Aycock explained that the site is officially in the remedial action/feasibility study phase, and the investigation projects to characterize the site are scheduled to continue until 2011. After that is complete, a risk assessment will be done to determine any risks to the public.

Ms. O'Connell stated that the time could be reduced if new innovative technologies are discovered that work faster than the currently used treatment for TCE which could take at least 20 years. Ms. Aycock announced that EPA and ADEQ are sponsoring a conference October 2-4, 2007 in Phoenix called Desert Remedial Action Technologies (i.e. Desert RAT). This conference is designed to attract experts in the field who may have developed treatment technologies for use in a desert environment with groundwater at depths of 100-200 feet. They have already received 20 or 30 responses to demonstrate their proven technologies. Ms. Aycock plans to try to utilize any of these technologies as pilot projects that may speed up the remediation process for the PGA-North Site.

Ms. Kagan asked if the CAG would be invited to the Desert RAT Conference. Ms. Aycock responded in the affirmative. Has any of the historical investigation come up with a figure of how much contaminant was dumped. Ms. O'Connell said there is nothing definitive because apparently no good records were kept. Ms. Aycock stated the highest TCE concentration was found to 44,000 parts per million (ppm) on the site, and they still haven't found all the sources. She explained that the bottom line is that all the contaminated groundwater has to be pumped up and treated down to 5 ppm.

Mr. Weise referred to the artist's rendition of the plume dated "4th quarter 2006" from Mr. Mongrain's slide presentation and asked if it was known whether the plume has migrated to the east and south toward the community lake in Litchfield Park. Ms. Aycock assured him that no traces of TCE were found to be in that lake, and background levels of perchlorate may be natural to arid regions. EPA has no evidence that says the slight perchlorate contamination is related to the Unidynamics facility. As far as the plume moving east, Ms. Aycock pointed out the most eastern well on the map that has shown contamination, and explained that the plume is highly influenced by regional pumping.

Mr. Bigman asked if there has been any attempts in the past to contain the contamination. Ms. Aycock said it took from 6 -10 years for the responsible party to admit accountability, which allowed the plume to migrate into a three-mile long plume. Groundwater modeling now indicates that the treatment systems in operation will be able to contain the plume. Mr. Bigman also asked if solidification (a treatment used at mining sites) of the contamination has been considered. Ms. Aycock had not heard of any technology that will solidify at 200 feet below surface. Ms. O'Connell also stated that mining sites can afford to put that land out of use for extended periods of time to do solidification because they are not densely populated like the PGA-North Site.

Mr. Stonebrink clarified to the group that the Western Avenue WQARF plume on the map no longer exists because the contamination has been remediated by the PGA-South treatment system. He also pointed out that the PGA-South illustrated plume on the map has also changed

and is now smaller and mainly confined to the airport properties with the exception of a small area in Subunit-C north of Yuma Road below the agricultural fields.

Mr. Garcia asked where the SVE system was located on the map. Mr. Mongrain pointed out that it was adjacent to the main dry wells that are thought to be the main source of the contamination.

3. PGA-South Site Update – Ron Clark, Goodyear Tire & Rubber (GTRC)

Mr. Clark discussed current activities concerning Well GAC #4 and the E-101 alternative water supply. A new control system was installed with a variable speed drive on GAC #4. LATA was able to tie in to existing piping to eliminate expensive infrastructure changes on the airport property. A physical connection to the GTRC treatment system was completed in July 2007. The hydrophysical testing work plan has been approved by ADEQ and testing is scheduled for August 2007. Mr. Clark continued by stating that the previously mothballed E-101 Well has been modified to serve as a backup supply. A physical connection is ready for use with tie in points at Well E-101 and existing piping from Well GAC #2 if the need arises. He also stated that Maricopa County permits have been issued in case the E-101 Well has to be used.

Mr. Clark discussed other activities that have been completed for the site including updating the operation and maintenance manual for Subunit A, further Hex Chrome delineation at the former chrome sludge drying bed, northern Subunit C delineation wells that are planned to verify containment, and the vapor intrusion study for buildings on some hot-spot polygons from a previous investigation.

Mr. Clark concluded with the status of the on-going cleanup at the site. He stated that the Southern Subunit C and Subunit A systems' uptime for the period from January 2007 through June 2007 was 99%. Downtimes were attributed to scheduled maintenance and power-related issues. He reported that approximately 171 pounds of TCE have been removed to date from the Subunit C southern plume, and approximately 43 pounds of TCE have been removed to date from the Subunit C northern plume. Mr. Clark also reported that approximately 5,192 pounds of TCE have been removed at the air stripper from Subunit A System to date. Mr. Clark also announced that a new engineering team, TRC, would be replacing LATA for GTRC this year.

Mr. Garcia asked what hex chromium was used for and how hard it was to clean up. Mr. Clark explained that there was a plating operation and treatment system on the site that treated for the chrome and produced a waste sludge which was dried out and hauled off. Right now there is no treatment for the chrome in the old drying beds other than just hauling it off, so they are looking at new innovative technologies. Mr. Garcia also asked for a definition of "polygon". It was explained that a polygon is an irregular shaped area that represents spaces on the map that had some contamination. Six of those polygons had buildings that could have vapor intrusion issues.

Ms. Ramirez asked for clarification of what the significance of the polygons meant. Mr. Clark explained that 6 out of 214 polygons on the map of the property didn't pass the screening level for vapor intrusion. So these six polygon areas will need to be tested to confirm any presence of volatiles in the buildings.

Mr. Bigman asked what the safe level was for human consumption of TCE. Mr. Clark answered that the Safe Drinking Water Act sets it at 5 ppm.

4. City of Goodyear Report – David Iwanski, Water Resources Manager

Mr. Iwanski commented on the artist's rendition of the PGA-North plume that showed it curving to the east. He stated that the City of Goodyear is optimistic that once wells EAO-6 and EAO- 5

are online, it will stop the further migration of the plume. He also committed to the continued cooperation and participation of the City with the entire PGA team to address the issues and concerns of the site.

Mr. Iwanski then gave an update on the progress of the City's Brownfields project that was made possible by the Crane Co. consent decree. The agreement is signed and on its way to EPA lawyers. In March, the Mayor and Council appointed a 13-member citizens committee, and Mr. Iwanski invited the CAG to participate in that committee. An environmental professional has been hired to do the Phase 1 and Phase 2 assessments of the properties identified. The City is very excited about this project to redevelop environmentally challenged sites.

Ms. Aycock asked if Mr. Iwanski could make the announcement of Mayor Cavanaugh's appointment to represent Arizona as the president of the first Arizona Chapter to the National Brownfields Association. Mr. Iwanski explained that the Mayor is going to be making a speech about the brownfields program to his fellow mayors at the end of August at the Arizona League of Cities and Towns meeting.

Mr. Bigman asked if there were any studies being done on all the effects of herbicides and pesticides on former agricultural and dairy areas that now are being developed for residential subdivisions. Mr. Iwanski replied that part of the Phase 1 assessment includes utilizing the historical knowledge of citizens to identify those sites and then prioritize sites for a subsequent Phase 2 assessment for possible remediation. Mr. Bigman also asked what was going to happen to the sites already developed that are found to be contaminated within the city area. Mr. Iwanski stated that if they have a chance to identify sites with previous environmental issues through the Brownfields program, the experts and citizens on the City's Project team will include and prioritize those sites.

5. "What is TCE" – Mónica Ramírez and Denise Moreno, University of Arizona (U of A) Superfund Basic Research Program

Ms. Moreno began by outlining what they would cover in the presentation regarding TCE. She explained what TCE is and what it was used for in the past that caused the contamination. She stated that TCE is a solvent designed to dissolve oily substances that was used from the 1940s to the 1970s without regulation. It has now been discovered that TCE has long term effects to the environment and human health. Ms. Moreno then spoke about the different health risks of TCE to humans. She also showed a map illustrating where all the areas in the country TCE contaminated sites have been found.

Ms. Ramírez spoke about the risk factors of TCE affecting human health. The variables to consider in determining what degree of severity human health is affected are: duration, dosage, family traits, route of exposure, and general health and lifestyle. Ms. Ramírez then gave an overview of how the Superfund Basic Research Program at the U of A prepares different levels of information brochures for the public and other interested parties. She also spoke about several of their research projects that their program is currently involved with. One of their biomedical projects is studying the development of the hearts of fetuses when mothers have been exposed to TCE. They are also working on two remediation projects on innovative technologies that have been submitted for the upcoming EPA Desert RAT Conference.

Ms. Ramirez ended the presentation by inviting everyone to visit their web site at www.binational.pharmacy.arizona.edu or contact them directly to receive more information on TCE or any of the research projects that the U of A is working on.

6. Call to the Public
Not applicable

7. Acceptance and/or Changes to Minutes for May 3, 2007 CAG Meeting
No action could be taken due to a lack of quorum. This item was tabled until the next meeting.

8. CAG Membership and possible voting
No action could be taken due to a lack of quorum. This item was tabled until the next meeting.

9.Signing of CAG charter
This business was approved by CAG at the previous meeting, so Ms. Krone signed the approved charter. Mr. Jones will sign it at the next meeting.

10. Next Meeting Date and Agenda Discussion
The CAG already set the next meeting to be November 1, 2007. A site visit was suggested to be scheduled in the fall. Agenda topics discussed were: CAG membership and possible voting, PGA-North and South activities update, and scheduling site visit.

11. Adjournment